



JOINT COMMITTEE OF THE EUROPEAN  
SUPERVISORY AUTHORITIES

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# Joint Committee Discussion Paper

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on automation in financial advice

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# Practical information

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EBA, EIOPA, and ESMA (the ESAs) welcome comments on this Discussion Paper on automation in financial advice and in particular on the specific questions set out in this paper.

Comments can be sent by clicking on the ‘send your comments’ button on the EBA website. Please note that the deadline for the submission of comments is 04 March 2016. Comments submitted after this deadline, or submitted via other means may not be processed.

Comments are most helpful if they:

- respond to the question stated;
- indicate the specific question or point to which a comment relates;
- are supported by a clear rationale;
- provide evidence to support the views expressed/ rationale proposed; and
- reflect a cross-sectoral (banking, insurance, and investment) approach, to the extent possible.

It is important to note that although you may not be able to respond to each and every question, the ESAs would encourage partial responses from stakeholders on those questions that they believe are most relevant to them.

All contributions received will be published following the close of the discussion period, unless you request otherwise by ticking the relevant box in the online form. Please note that a request to access a confidential response may be submitted in accordance with the ESA's rules on public access to documents. We may consult you if we receive such a request. Any decision we make not to disclose the response can be subject to review by the Boards of Appeal of the three ESAs and the European Ombudsman.

## Executive summary

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One of the tasks of the European Banking Authority (EBA), the European Securities and Markets Authority (ESMA) and the European Insurance and Occupational Pensions Authority (EIOPA), collectively known as the three European Supervisory Authorities (ESAs), is to monitor new and existing financial activities and to adopt measures, if any, with a view to promoting the safety and soundness of markets and convergence in regulatory practice.

In monitoring financial innovations, the ESAs have noted the continued increase in the digitalisation of financial services across the banking, insurance and securities sectors. Of particular interest is the phenomenon of automation in financial advice, i.e. the various ways in which consumers can use automated tools (typically websites) to receive financial advice (for example a recommendation to buy or sell financial products), without (or with very limited) human intervention. Automation in financial advice has been observed by the ESAs, albeit to varying extents, across the banking, insurance and securities sectors and across different EU Member States.

The ESAs have assessed the potential benefits and risks of automation in financial advice, with a view to determining at a later stage which, if any, regulatory and/or supervisory actions may be needed to mitigate the risks while at the same time harnessing the potential benefits. “Advice” is used in its common meaning of the word. It should be noted that the primary focus of this Discussion Paper is on the phenomenon of the automation of financial advice, not on the provision of advice itself. The ESAs are issuing this Discussion Paper in order to receive feedback from stakeholders on this preliminary high-level assessment.

This Discussion Paper starts by describing the main characteristics of automated financial advice tools as observed by the ESAs. It then presents a preliminary assessment of the potential benefits, such as a potentially wider access for consumers to financial advice; a provision of advice at lower cost; and the potential to deliver a highly consistent consumer experience when seeking financial advice. On the other hand, the potential risks include the possibility that consumers could misunderstand advice provided to them without the benefit of a human advisor to support the advice process, and the potential for limitations or errors in automated tools that may not be easily identifiable for consumers or financial institutions. The Discussion Paper concludes by presenting an overview of the possible evolution of the market.

Given this assessment, the ESAs are of the view that, even though automation in financial advice is not presently observed equally across all financial sectors and/or EU Member States, the phenomenon has the potential to continue to grow. The ESAs will assess the feedback to this Discussion Paper in order to better understand the phenomenon and to decide which, if any, regulatory and/or supervisory action is required.

## Background

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2. The European Banking Authority (EBA), the European Securities and Markets Authority (ESMA) and the European Insurance and Occupational Pensions Authority (EIOPA), collectively known as the three European Supervisory Authorities (ESAs), have been mandated in their founding regulations to monitor new and existing financial activities and to adopt measures, if any, with a view to promoting the safety and soundness of markets and convergence in regulatory practice.<sup>1</sup>
3. In order to fulfil this mandate, the three ESAs continuously monitor innovations in financial markets, either individually for their respective sectors or jointly where an innovation occurs across sectors. In monitoring financial innovations, the ESAs have an interest in ensuring that market actors engaging with such innovations can do so with confidence. In particular, successful innovation can only be achieved and sustained where there is a high level of confidence amongst consumers in such innovations.
4. To achieve this, the ESAs assess the benefits and risks of financial innovations, with a view to determine which, if any, regulatory and/or supervisory actions may be needed to mitigate any risks while at the same time striking a balance to harness the benefits.
5. One topic that the ESAs have been observing for some time is the phenomenon of increasing digitalisation in financial services. In particular, a growing number of consumers use automated tools when managing their finances, for example, to monitor and manage their money; to obtain financial information or education; to compare the costs, features and benefits of different products or different providers; and to purchase products/services. Automated tools are also used by consumers to seek recommendations or advice prior to purchasing or selling financial products/services.
6. This phenomenon of increasing digitalisation is observed by the ESAs across the banking, insurance and securities sectors and is supported by other related data. For example, the Forrester Research Digital Banking Forecast data on consumer access to digital banking services shows that 2013 was the first year that the majority of adults with bank accounts in seven EU countries (France, Germany, Italy, the Netherlands, Spain, Sweden and the UK) used a Personal Computer (PC), tablet or mobile phone to access digital banking services, rather

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<sup>1</sup> See Articles 9(2) in the following founding regulations of the EBA: Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority), <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32010R1093&from=EN>;  
EIOPA: Regulation (EU) No 1094/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Insurance and Occupational Pensions Authority), <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32010R1094&from=EN>;  
and ESMA: Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32010R1095&from=EN>.

than conventional means (e.g. in branch or via telephone). This is forecast to grow at a rate of 19% per annum by 2018<sup>2</sup>. Specifically in relation to investment advice in the securities sector, an estimate by independent research firm MyPrivateBanking in 2015 expects that global assets under management of automated advice services (at times, and in the research above, also referred to as ‘robo-advice’) will reach \$20 billion by the end of 2015. Within the five following years the global assets under management of robo-advisors is forecast to grow to an estimated \$450 billion (2020).<sup>3</sup>

7. In considering the topic of automation in financial advice, the ESAs have observed the following across the banking, securities and insurance and pensions sectors :

- In the banking sector:
  - i. Automation specifically in relation to financial advice does not seem to be very widespread. However, human contact is supported more and more by the use of various automated tools. These include comparison websites that can compare products offered by various financial institutions, and websites providing information on specific products and helping consumers to select between products by using simulators and calculators. The use of such tools has been observed in relation to products such as mortgages, personal loans, bank accounts and bank deposits. These tools may allow consumers to finalise a purchase, conclude a contract, or act as intermediaries which, after giving recommendation, help the consumer to get in touch with the financial institution offering the given products or services.
  - ii. New business models that are based in providing advice through automated advisory tools have nonetheless emerged (e.g. automated tools where the consumer fills in all relevant information and receives an advice on which mortgage to get as a result).
- In the securities sector:
  - i. Automation in relation to financial advice is a more mature phenomenon, although the provision of advice that is completely automated appears to feature only in a few EU Member States. In this business model, automated tools are used as a type of financial adviser, often referred to

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<sup>2</sup> See the Forrester Research Digital Banking Forecast at <https://www.forrester.com/Forrester+Research+Digital+Banking+Forecast+2013+To+2018+EU7/fulltext/-/E-RES112122>.

<sup>3</sup> See “Robo-Advisors 2.0 - How Automated Investing is Infiltrating the Wealth Management Industry, MyPrivateBanking, 2015, executive summary, [http://www.myprivatebanking.com/UserFiles/file/Extract%20-%20MyPrivateBanking%20Research%20Report%20-%20Robo-Advisors%202.0\(1\).pdf](http://www.myprivatebanking.com/UserFiles/file/Extract%20-%20MyPrivateBanking%20Research%20Report%20-%20Robo-Advisors%202.0(1).pdf).

- as a ‘robo-adviser’: the automated tool asks prospective investors for information about their specific circumstances and, based on the answers provided, an algorithm is used to recommend transactions in financial instruments that match the customer’s profile.
- ii. Different automated tools may be used to support different parts of the advice process, for example the collection of information, risk profiling, portfolio analysis, and order processing or trading.
  - iii. Some advice services are entirely automated, whereas other services foresee human interaction between the consumer and the advice provider at some stage.
  - iv. In a greater number of European jurisdictions, other automated tools exist that offer various online functionality to consumers. Such offerings include (but are not limited to): the possibility to open and manage online trading accounts that allow the consumer to trade financial instruments on an execution-only basis; automated portfolio management services;<sup>4</sup> and automated tools that compare the prices of transacting in different financial instruments.<sup>5</sup>
- In the insurance and pensions sector:
    - i. New business models that provide online independent financial advisory services that use algorithms to select pension investments for savers have emerged.
    - ii. Some insurance undertakings’ websites propose a personalised quote to the consumer on the basis of a questionnaire.
    - iii. Unit-linked life insurance products and pure protection products (such as health insurance, travel insurance, property insurance, household insurance, vehicle insurance, accident insurance, general and pension life assurance products) can be purchased online in many jurisdictions. The online purchase process often includes online, automated recommendation based on a mix between quote calculation engines and personal detail questionnaires.

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<sup>4</sup> ‘Automated’ portfolio management is the service of portfolio management provided via algorithms or other IT tools, including so-called “copy trading,” where a service provider exercises investment discretion by automatically executing the trade signals of third parties, where such a service relates to MiFID financial instruments. The automatic execution of trade signals is discussed in more detail in ESMA’s 2012 Q&A on MiFID and Investor Protection: <http://www.esma.europa.eu/system/files/2012-382.pdf>.

<sup>5</sup> As one example, some automated tools offer an investment portfolio ‘scan’ service, whereby the tool can analyse a specific financial instrument or an investor’s current investment portfolio, and compare this to other (lower cost) investment opportunities in the market place.

8. In jurisdictions both inside and outside of the EU, the topic of automated financial advice has gained in prominence, including in mainstream media. Some national regulators have taken specific actions in their jurisdictions. In the securities sector, this includes, inter alia, the provision of guidance on the use of automated tools in the context of assessing customer suitability and the reasonableness of the advice/recommendation.<sup>6</sup> However, no harmonised action has been taken in the EU to date.
9. As is often the case with financial innovation topics, the phenomenon of automation in financial advice has emerged against a background of a lack of clarity in the existing legislative framework and inconsistent regulatory treatment across the three sectors. For example, the notion of ‘automation’ in the context of financial services is not defined in any relevant sectorial legislation. The concept of ‘advice’ is defined, although to a different extent across the three sectors:
- In the banking sector, (i.e. loans, mortgages, deposits, payment accounts, payment services, and electronic money), the Mortgage Credit Directive defines ‘advisory services’<sup>7</sup>. This definition, however, is only applicable to products and services within the scope of this specific Directive and is not, therefore, common and valid for all banking products;

<sup>6</sup> As illustrated in the “Report on the IOSCO Social Media and Automation of Advice Tools Surveys”, July 2014, available at <http://www.iosco.org/library/pubdocs/pdf/IOSCOPD445.pdf>.

A number of Member-States have carried out some level of analysis of automation in financial advice or similar phenomenon. For instance, the Danish FSA conducted a study on the use of automated advice tools in the investment area in 2013 (<https://www.finanstilsynet.dk/da/Nyhedscenter/Pressemeddelelser/Arkiv-PM/Presse-2013/Undersoegelse-af-IT-baseret-investeringsraadgivning.aspx>); the French AMF and ACPR issued a joint press release specifying which services may fall into investment advice, receipt and transmission of orders or portfolio management as defined by law in 2013 ([http://amf-france.org/Actualites/Communiqués-de-presse/AMF/annee\\_2013.html?docId=workspace%3A%2F%2FSpacesStore%2Fa2889dcc-be37-46a9-9562-41179f002c2c](http://amf-france.org/Actualites/Communiqués-de-presse/AMF/annee_2013.html?docId=workspace%3A%2F%2FSpacesStore%2Fa2889dcc-be37-46a9-9562-41179f002c2c)); the French AMF also published a position regarding ESMA Guidelines on certain aspects of the MiFID suitability requirements in 2012 ([http://amf-france.org/en\\_US/Actualites/Communiqués-de-presse/AMF/annee\\_2012.html?docId=workspace%3A%2F%2FSpacesStore%2Fd36c992c-5fa3-45c6-a5dc-9d0c84ae0a11&currentPage=2](http://amf-france.org/en_US/Actualites/Communiqués-de-presse/AMF/annee_2012.html?docId=workspace%3A%2F%2FSpacesStore%2Fd36c992c-5fa3-45c6-a5dc-9d0c84ae0a11&currentPage=2)); the Italian supervisory authority on insurance sector (IVASS) conducted a survey on comparison websites in 2014 ([http://www.ivass.it/ivass\\_cms/docs/F4449/INVESTIGATION\\_INTO\\_COMPARISON\\_WEBSITES\\_IN\\_THE\\_ITALIAN\\_INSURANCE\\_MARKET.pdf](http://www.ivass.it/ivass_cms/docs/F4449/INVESTIGATION_INTO_COMPARISON_WEBSITES_IN_THE_ITALIAN_INSURANCE_MARKET.pdf)); and the UK FCA carried out a thematic review about retail investment advice in 2014, (<http://www.fca.org.uk/static/documents/thematic-reviews/tr14-21.pdf>)

<sup>7</sup> The Mortgage Credit Directive - MCD (Directive 2014/17/EU of the European Parliament and of the Council, of 4 February 2014, at the following website: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0017&from=EN>) defines ‘advisory services’ as ‘the provision of personal recommendations to a consumer in respect of one or more transactions relating to credit agreements and constitutes a separate activity from the granting of a credit and from the credit intermediation activities set out in point 5’, under article 4(21). It then sets what it calls ‘standards for advisory services’ under article 22 MCD.

Also, the IV Capital Requirements Directive (CRD IV Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC, at the following website: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013L0036&from=EN>) refers to ‘portfolio management and advice’ in its Annex I, as one of the list of activities subject to mutual recognition.

- In the securities sector, the Markets in Financial Instruments Directive (MiFID)<sup>8</sup> provides a definition of "investment advice," which is further defined in the MiFID Implementing Directive,<sup>9</sup> and has been left unchanged under MiFID II<sup>10</sup> (which will enter into application in 2017).
- In the insurance sector, the Insurance Distribution Directive,<sup>11</sup> upon which a political agreement was reached end of June 2015, will provide a definition of advice that follows closely the definition in MiFID.<sup>12</sup>

10. In addition to the legislation mentioned above, it should also be noted that, depending on their particular business model, distributors using online channels must comply with other applicable European and national legislation. Relevant EU legislation may include (but may not be limited to): the Insurance Mediation Directive (IMD)<sup>13</sup> – currently being recast as the Insurance Distribution Directive); the Financial Services Distance Marketing Directive (DMD);<sup>14</sup> the Unfair Commercial Practices Directive;<sup>15</sup> the E-commerce Directive;<sup>16</sup> the Data Protection Directive;<sup>17</sup> the Misleading and Comparative Advertising Directive;<sup>18</sup> the Consumer Rights Directive;<sup>19</sup> and the Online Dispute Resolution (ODR) Regulation.<sup>20</sup>

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<sup>8</sup> Directive 2004/39/EC of the European Parliament and of the Council of 21 April 2004 on markets in financial instruments amending Council Directives 85/611/EEC and 93/6/EEC and Directive 2000/12/EC of the European Parliament and of the Council and repealing Council Directive 93/22/EEC, at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02004L0039-20110104&from=EN>.

Article(4)(1)(4) of MiFID states: "Investment advice' means the provision of personal recommendations to a client, either upon its request or at the initiative of the investment firm, in respect of one or more transactions relating to financial instruments." This definition is also discussed further in CESR's Question & Answers on Understanding the definition of advice under MiFID (CESR/10-293) at the following website [http://www.esma.europa.eu/system/files/10\\_293.pdf](http://www.esma.europa.eu/system/files/10_293.pdf).

<sup>9</sup> Commission Directive 2006/73/EC of 10 August 2006 implementing Directive 2004/39/EC of the European Parliament and of the Council as regards organisational requirements and operating conditions for investment firms and defined terms for the purposes of that Directive, at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:241:0026:0058:EN:PDF>

<sup>10</sup> Directive 2014/65/EU of the European Parliament and of the Council, of 15 May 2014 at the following website: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0065&qid=1410176634538&from=EN>.

<sup>11</sup> Article 2, <http://data.consilium.europa.eu/doc/document/ST-10747-2015-INIT/en/pdf>.

<sup>12</sup> 'Advice' means the provision of a personal recommendation to a customer, either upon their request or at the initiative of the insurance distributor in respect of one or more insurance contracts;

<sup>13</sup> Directive no. 2002/92/EC of the European Parliament and of the Council, of 9 December, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:009:0003:0010:EN:PDF>.

<sup>14</sup> Directive no. 2002/65/EC of the European Parliament and of the Council, of 23 September, <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=CONLEG:2002L0065:20071225:EN:PDF>.

<sup>15</sup> Directive no. 2005/29/EC of the European Parliament and of the Council, of 11 May, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2005:149:0022:0039:EN:PDF>.

<sup>16</sup> Directive no. 2000/31/EC of the European Parliament and the Council, of 8 June, <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:178:0001:0016:EN:PDF>.

<sup>17</sup> Directive no. 95/46/EC of the European Parliament and the Council, dated 24 October – <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=CONLEG:1995L0046:20031120:EN:PDF>.

<sup>18</sup> Directive no. 2006/114/EC of the European Parliament and the Council dated 12 December, <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:376:0021:0027:EN:PDF>.

<sup>19</sup> Directive no. 2011/83/EU of the European Parliament and the Council dated 25 October, <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:304:0064:0088:EN:PDF>.

11. The three ESAs acknowledge that the existing framework of applicable European and national legislation might, to an extent, mitigate some of the risks arising as a result of the phenomenon of automation in financial advice. However, this Discussion Paper does not include a mapping against the existing relevant sectorial legislation, or other mitigants that may be relevant to the potential risks presented in this Discussion Paper, and instead describes and assesses the phenomenon with a ‘blank sheet of paper’.
12. Given the complexities in reaching a common definition across the three sectors and to ensure an approach that is compatible with the various existing legislation, for the purposes of this Discussion Paper, the three ESAs have adopted a wide interpretation of the meaning of automated advice, to capture all variants of the phenomenon that may require attention and to capture the meaning of advice from the consumer’s point of view, i.e., the consumer’s understanding of what constitutes advice is broad and not confined to sectoral definitions. “Advice” is used in its common meaning of the word, as an opinion or recommendation as to the appropriate choice of action. It should be noted that the primary focus of this Discussion Paper is on the phenomenon of the automation of financial advice, not on the provision of advice itself.
13. The ESAs are of the preliminary view that, although the phenomenon of automation in financial advice is not currently equally widespread across the three sectors or across all EU jurisdictions, it is an innovation with growth potential that requires the attention of regulators to better understand and harness its potential benefits, but also to identify risks before they materialise in the forms of consumer detriment or a reduction in market confidence.
14. The ESAs have assessed the potential benefits and risks of automation in financial advice, with a view to determining at a later stage which, if any, regulatory and/or supervisory actions may be needed to mitigate the risks while at the same time harnessing the potential benefits. The ESAs are issuing this Discussion Paper in order to receive feedback from stakeholders on this preliminary high-level assessment.
15. This Discussion Paper starts by outlining the main characteristics of automated financial advice tools, as observed by the ESAs, before presenting a preliminary assessment of the potential benefits and risks associated with the phenomenon of automation in financial advice, under the categories of consumers and financial institutions. It concludes by presenting an overview of automation in financial advice and a possible evolution of the market as seen by the ESAs.
16. Readers are invited to confirm or challenge the views expressed by the three ESAs, and specific questions are asked at the end of each chapter.

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<sup>20</sup> Regulation no. 524/ 2013, of the European Parliament and of the Council dated 21 May, <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:165:0001:0012:EN:PDF>.



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17. The examples presented in this Discussion Paper are based on the ESAs observations of automation in financial advice across EU jurisdictions. These examples and observations have been described in a general way, without referring to specific jurisdictions.

# Main characteristics of automated financial advice tools

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18. Automation in financial advice has been evidenced to varying extents in the banking, insurance and securities sectors, as discussed in the Background section of this Discussion Paper. Taking this evidence into account, the ESAs have identified three main characteristics of financial advice tools.

## The automated tool is used directly by the consumer, without (or with very limited) human intervention

19. Automated financial advice tools are used by consumers to obtain advice about the purchase or sale of a financial product or service, without or with very little interaction with staff. Fully automated tools have been observed in the securities sector for the provision of advice on transactions in financial instruments and also in the provision of non-life insurance. Partly automated processes have been observed across the three sectors, for example in the provision of some banking products (e.g. mortgages, loans, and savings accounts), where the consumer uses the tool to obtain advice on the products up to a certain point. However after this point, the consumer is typically asked to provide his contact details so that the financial institution can contact him to arrange a personal meeting.

20. When an automated financial advice tool is used, human intervention is replaced by an automated process (such as algorithms or decision trees) that the consumer accesses directly. Automated financial advice tools are therefore consumer-facing tools, as opposed to advisor-facing tools (for example, IT tools that are used by a human advisor to aid in the advice process). Automated financial advice tools are sometimes referred to as automated advisors, robots or robo-advisors, highlighting their lack of human attributes such as emotional response, bias, judgment, and the ability to assess the need to probe where further clarification or information might be required from the consumer.

## An algorithm uses information provided by the consumer to produce an output

21. The technology behind the automation of financial advice is typically an algorithm. The eventual advice provided is therefore reliant on two key inputs: (i) personal information<sup>21</sup> input by the consumer (generally online, and in a questionnaire format); and (ii) the logic of the algorithm, which ‘decides’ which products or services should then be recommended to the consumer. Automated financial advice tools are often presented in the form of a decision tree,

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<sup>21</sup> This includes objective data, such as age, job, monthly income, number of children, etc.; and subjective data, such as the consumer’s investment goal, financial condition, risk tolerance, level of knowledge and experience, etc.

where the consumer responds to a sequence of scripted questions which will generate recommendations based on the consumer's specific responses.

## The output of the tool is, or is perceived to be, financial advice

22. An automated advice tool provides the consumer with advice, which for the purpose of this Discussion Paper is seen from a consumer's perspective and therefore understood in a common and broad sense and not limited to a narrow definition of advice under a particular EU legislation. Against this background, it is not only relevant whether or not the provider of the service qualifies that service as 'advice' (e.g. applying existing legal definitions). It is also important to take into account the nature and context of the information that is presented by the tool, and whether the consumer could reasonably perceive the output to be advice.
23. The ESAs are of the view that any output generated by an automated tool that could be reasonably perceived by the consumer as financial advice should be considered within the scope of this exercise, depending on the precise characteristics of the tool and subject to meeting the other relevant criteria (i.e. the automated tool is used directly by the consumer, without (or with very limited) human intervention; and an algorithm uses personal information provided by the consumer to produce an output).
24. The level of specificity of the advice provided will depend on the information collected by the automated tool. For instance, some risk-profiling-tools capture information to categorise consumers, for example by risk profile and investment horizon. In these instances, the advice provided may be the same as every other consumer who is in the same category of investor (i.e. with similar risk profile and investment horizon).
25. The level of specificity of the advice will also depend on the universe of products/services considered by the tool: if the algorithm only considers a limited range of products/services when providing the final advice, the output of the tool will, therefore, be limited.
26. Examples of tools that could be considered to display all the above characteristics are:
- Automated financial advice tools in the health, home and motor insurance sector – In the case of motor insurance, at the beginning of the process the consumer is presented with a quote calculator/generator which seeks details from the consumer such as their name, age, email address, phone number, car registration, licence type, no claims discount, area vehicle kept. The quote calculator/generator produces a quote or selection of quotes representing different cover options, i.e., comprehensive, third party or third party fire and theft. At this stage the consumer can continue with the process by inputting more comprehensive personal details such as, details of current/previous insurance cover, driving history, vehicle details, and employment status, to receive a full quote. After processing the consumer's personal details the tool presents one or a number of products that match the consumer's needs from the range of

products available to it. The details of those products are set out and the consumer can then choose which product he/she wishes to purchase. The process can be completed without human intervention but the consumer always has the option throughout the process to contact the provider/intermediary if he/she wishes to do so. A broadly similar process applies in the case of health and home insurance products.

- Automated financial advice tools in the pension investment sector – An online tool that guides consumers into selecting the right type of pension funds for investment (e.g. unit link insurance). The provider of the tool offers automated online advice (through e.g. a risk profile questionnaire), that results in an online indication of the type of investment funds, and of the type of allocation of funds that match the consumers' investment needs and risk appetite.
- Automated financial advice tools in the securities sector – A website where an investor (or potential investor) uses an online questionnaire to enter information about his or her specific circumstances, including the investor's risk appetite; investment goals; and facts relating to the investor's life and situation (for example, this might include: the investor's tax situation, marital or relationship status, the investor's career and retirement plans, what other investments and assets the investor has, the investor's financial resources and commitments, and the investor's plans for their family in the short and longer term). The tool then uses this information to automatically generate recommended transactions in relation to one or more financial instruments. For example, this could include (amongst other things) recommendations for the investor or potential investor to buy, sell, subscribe for, exchange, redeem, hold or underwrite particular financial instruments. The recommendation is presented as suitable for that person or is based on the consideration of that person's circumstances.
- Automated financial advice tools in the banking sector - An online tool that uses a questionnaire to ask consumers several questions to determine personal characteristics (household size, debt, income, age etc.). Based on the answers, consumers get an automated generated budget. The user can then be guided to personalize the budget further, e.g. by changing different costs and add special cost (expensive hobbies, travel, transportation, etc.). After the budget has been presented, the user gets a recommendation for a credit amount or mortgage amount, for instance. These recommendations are an outcome based on a precondition of the questionnaire, embedded in the underlying algorithm (e.g. 'no loan', if answer to questions no. 2, 6 and 9 is 'yes'; 'limited loan' if amount inputted as answer to question no. 5 is between X and Y Euros etc.).

27. Other automated tools that do not meet the above-mentioned criteria are considered to be outside the scope of this Discussion Paper. Some such examples include automated tools that provide information only; the provision of general financial analysis or market data;

advertisements; and most comparison websites and calculators. In addition, other ways of engaging with financial institutions in an automated manner, such as online banking, are not in the scope of this Discussion Paper.

28. Financial education websites, or any tools or portals developed by public authorities and/or by consumer protection associations are also not included within the scope of the Discussion Paper.

### Questions:

1. Do you agree with the assessment of the characteristics of automated financial advice tools presented in this Discussion Paper? If not, please explain why.
2. Are there any other relevant characteristics of automated financial advice tools?
3. Are you aware of examples of automated financial advice tools being used in the banking, insurance, and/or securities sectors? Please provide examples, giving details of their operating process.
4. Do you offer/are you considering offering automated financial advice tools as part of your business model? If so, please briefly describe: i) what type of entity you are, e.g., long established, start-up, a product provider, an intermediary; ii) the service you provide (e.g. to what extent do you integrate human interaction in the tool you provide?); iii) the nature of your clients; iv) your business model; v) who developed the automated tool (i.e. an external company or developed internally?); and vi) the size of your activity and/or forecast activity?
5. Do you consider there are barriers preventing you from offering/developing automated financial advice tools in the banking, insurance and securities sectors? If so, which barriers?

## Potential benefits

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29. Automation in financial advice is a phenomenon which can present potential benefits for consumers and for financial institutions. This chapter categorises potential benefits for consumers, in terms of costs, access, and quality of service, as well as to financial institutions, in terms of costs, size of the client base, and quality of service.

30. The potential benefits set out below are based on the prior assumption that the automated tools are technologically robust and serve the purposes for which they were designed.

### Benefits to consumers

#### Benefits relating to cost

##### B1: Consumers pay less when they receive advice through automated tools

31. Automation in financial advice could decrease the costs of providing advice, which might make advice more affordable to a wider range of consumers. Most automated advisers market their offering as a low cost alternative to human advice.

#### Benefits relating to consumer access

##### B2. A wider range of consumers has access to advice through automated tools

32. Consumers that may not normally contact a human advisor to obtain financial advice (e.g. because they feel that they are not wealthy enough to consult a financial advisor, or that the advisor is not objective enough) might feel more confident using automated financial advice tools. Increasing automation may therefore democratise access to financial advice.

33. Some categories of consumer do not have experience in consulting a human financial advisor (for example, younger consumers, or less affluent consumers where the cost of financial advice may not be worth the benefit of the advice provided). These consumers might feel that automated tools, which can also offer financial advice at a lower cost and with limited investment of time, are more accessible than advice provided by a person. This might give some consumers greater motivation to act upon financial matters that they would not if they were using a human adviser.

##### B3: Consumers have access to a wider range of service providers using automated advice tools

34. As automated financial advice tools are usually available online they more readily facilitate cross-border transactions, compared to human advice. This makes it easier for consumers to access a wider range of advice providers, including from other jurisdictions.

#### B4: Consumers obtain financial advice in a faster, easier and non-time-consuming way

35. Because they are available online 24 hours a day, 7 days a week, and are aimed at reaching a wide range of consumers, consumers may feel that automated tools that provide advice are easier to use than a human adviser. For example, online automated tools may present information to consumers in a short and digestible way (e.g. by providing drop-down boxes, and default options). It also usually takes only a few moments after an initial questionnaire is answered by the consumer before the advice is obtained as a result of the underlying algorithm.

#### Benefits relating to the quality of service

#### B5: Consumers receive more consistent advice when they use automated tools

36. A well-developed algorithm may be more consistently accurate than the human brain at complex repeatable regular processes, and in making predictions. Automated advice tools could therefore reduce some elements of behavioural biases, human error or poor judgement that may exist when advice is provided by a human. A well-developed algorithm could ensure equal and similar advice to all consumers with similar characteristics. This might improve the consistency of advice provided, regardless of the consumers' geographical residence or ability to identify and access a quality human adviser.

37. Automated tools may also enable consumers to receive advice without feeling pressured or led as a result of personal relationships. Without the human interaction with an advisor, some consumers may feel they can take their decisions more freely and objectively.

#### B6: Consumers obtain advice based on the most up-to-date market information when using an automated tool

38. Because automated tools are able to rapidly process large volumes of complex data, it is possible for an automated tool to quickly assess and reassess the recommendations it makes against current data, on an ongoing basis. For example, automated advice tools can incorporate market changes continuously, to provide real-time, personalised feedback to consumers. Human advisors may find it more challenging to be as constantly up to date with relevant market developments.

#### B7: Consumers find it easier to keep a record of the advisory process

39. The use of automated advice tools allows consumers to easily receive and retain the details of their financial transactions online. For example, as automated tools systematically record all the stages of the advisory process, they can easily provide a print out of the questions and answers which lead to the recommendation. This may help consumers in the future, for example if they have a query about the advice provided.

**Questions:**

6. Do you consider the potential benefits to be accurately described? If not, please explain why.
7. Are you aware of any additional benefits to consumers? If so, please describe them.
8. Do you see any differences in the potential benefits arising for consumers in each of the banking, insurance and securities sectors?
9. Have you observed any of these potential benefits? If so, please provide examples and describe the kind of benefit that has accrued.

## Benefits to financial institutions

### Benefits relating to cost

#### B8: Financial institutions incur fewer costs to deliver financial advice

40. It may be cheaper for financial institutions to provide advice through automated tools, for example because automated advice does not require the employment of human advisers, or because fewer costs are incurred from potential human errors. Although a period of initial investment is required, once the cost of system development has been met, the marginal cost of each new transaction may be relatively low, enabling financial institutions to benefit from economies of scale.

### Benefits relating to the size of the potential client base

#### B9: Financial institutions have access to a wider range of consumers if they provide advice through automated tools

41. By providing advice through automated tools financial institutions may have access to a wider range of consumers, not only due to the relative ease of attracting a potential clients from across the EU via an online presence, but also because they can attract new categories of consumers that prefer to use online channels as opposed to face-to-face or telephone channels. Financial institutions can thus benefit from automated tools to increase their distribution platform to deliver advice.

### Benefits relating to the quality of service

#### B10: Financial institutions use automated tools to deliver a consistent consumer experience

42. Automated tools may be seen by financial institutions as a way to deliver a more standardised consumer experience by removing the potential for differences due to human interpretation.

43. An automated tool may also enhance the quality of the service provided to consumers by providing a direct link with current market or other relevant data. Automated tools can more rapidly process large quantities of evolving data and consequently update the advice output on a real-time and ongoing basis, if needed.

#### B11: The provision of advice by financial institutions is more easily auditable because automated tools are more easily interrogated

44. Automated processes that are documented *ex ante*, for example in the logic of an algorithm or decision tree, can be easily reviewed and monitored by financial institutions (e.g. by Compliance, Risk or Audit functions). It may be also be easier on an *ex post* basis to interrogate decisions made by an automated tool, which performs tasks in a highly consistent manner than decisions that have been made by a human being.

45. As automated tools can generate an automatic record of the information that has been captured, the decisions made, and the output provided, it may also be easier for financial institutions to maintain records of the advice process, and to provide such records, for example in the event of a consumer complaint.

**Questions:**

- 10.** Do you consider the potential benefits to financial institutions to be accurately described? If not, please explain why.
- 11.** Are you aware of any additional benefits to financial institutions? If so, please describe them.
- 12.** Do you see any differences in the potential benefits arising for financial institutions in each of the banking, insurance and securities sectors?
- 13.** Have you observed any of these potential benefits? If so, please provide examples and describe the kind of benefit that has accrued.

## Potential risks

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46. The increasing automation of financial advice may present some potential risks to consumers and financial institutions, which are discussed in what follows below. The potential risks to consumers are presented under the following categories:

- Risks related to consumers having limited access to information, and/or limited ability to process that information;
- Risks related to flaws in the functioning of the tool; and
- Risks related to a widespread use of automated financial advice tools.

47. Potential risks to financial institutions are categorised as those arising from the functioning of the tool and from the allocation of liability.

48. In general terms, potential risks can arise whenever advice is provided. However, many of these potential risks are not exclusive to advice that is delivered in an automated manner. The focus of the analysis in this section is on those potential risks that relate to the fact that advice is automated, rather than on exploring the potential risks to consumers and financial institutions that arise when advice is provided in general.

49. Nonetheless, some of the potential risks discussed in this section can arise not only when automated tools are used, but also when advice is provided by a person. They have still been included in this Discussion Paper where such risks could be considered to be in some way of a higher probability and/or a higher impact as a result of the use of an automated tool.

### Risks to consumers

#### **Risks related to consumers having limited access to information, and/or limited ability to process that information**

##### **R1: Consumers make unsuitable decisions as a result of lack of information, and reduced opportunity to fill the gaps or seek clarifications**

50. It may be more difficult for consumers to understand key information about advice provided to them by an automated tool, if they do not have the benefit from the help of staff during the process of choosing a specific tool. Because an automated tool relies on the consumer reading and digesting relevant information, without necessarily providing the opportunity to ask questions, it may be more likely that consumers do not understand key information such as terms and conditions (this might include information such as how to terminate or end a relationship, fees and expenses associated with the advice or any associated products/services, if there is a fixed term, any other relevant conditions). If consumers do not

properly understand key information, they may misinterpret the advice provided to them, and make unsuitable decisions.

51. In addition, important information presented to the consumer intended to improve their understanding (such as warnings, disclaimers, or contractual terms) may be unduly dismissed as “legal small print,” without the benefit of a person explaining what the information means.

## R2: Consumers receive unsuitable advice as a result of not being made aware how information they input is used by the automated tool

52. Automated tools that provide advice to consumers require the input of personal data directly by the consumers. As advice provided via automated tools is reliant on the data inputted without a human sense-checking it, it might be more likely that consumers do not understand how their input is used by the underlying algorithm or decision tree mechanism, or that inaccurate data is provided.

53. This could happen because the consumer does not understand what kind of input is requested (e.g. net yearly income may be misinterpreted as gross yearly income); because the consumer is not knowledgeable enough to input the requested data (e.g. a question about what kind of specific financial products a consumer would be willing to purchase may include many technical terms that are unknown to the consumer); or because the tool relies on subjective questions that give rise to misconceptions (e.g. a question about the consumer’s risk profile is totally based on the consumers’ own assessment of his/her risk profile). This risk is greater when advice is provided using an automated tool than advice provided with human interaction, because of a reduced ability to clarify misunderstandings and ask questions.<sup>22</sup>

54. Consumers may also not be made aware of how the information they enter into an automated tool is taken into account by the underlying algorithm or decision tree, for example if an automated tool only considers one objective (e.g. retirement savings), disregarding other financial objectives that could modify the final output (e.g. financing childrens’ studies).

55. If consumers do not understand the assumptions and limitations of the criteria and methodology used by automated advice tools, there is a risk that advice may be misinterpreted or unsuitable for the consumer’s needs.

56. Also, consumers may not be aware that output produced by the tool is only relevant regarding the consumers’ present situation, based on the data inputted. If consumers do not implement the advice immediately, or within a given time-frame during which their situation has not changed and the data they have inputted in the tool is accurate, the advice given by the tool may be rendered unsuitable due to consumers’ circumstances having changed. This is more relevant where there is no human advisor responsible for asking the client about any material

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<sup>22</sup> It should be noted that, in the securities sector, MiFID requires that investment firms providing advice are obliged to take all reasonable steps to ensure that information provided is correct and up to date. This also applies if the advice is provided by an automated tool.

change that may recommend a reassessment or, in any case, reminding the client of the need to conduct regular reviews of the data inputted.

### R3: Consumers receive unsuitable advice as a result of biases in the tool that they are not aware of

57. Consumers may not be aware that a tool that appears to offer “free” and unbiased advice may, in fact, hide cross-subsidisation between the advice given and the final product/service chosen by the consumer. For example, this might be the case where advice is free of charge but higher fees are paid when a transaction is made in relation to a given product; and/or when advice is intended to direct the consumer to a pre-defined set of “own” products/services.

58. It may also not be clear to consumers what kind of compensation, if any, is awarded to the automated adviser for a piece of advice and whether there is a connection between the advice given and the final choice made by the consumer.

59. This is especially relevant where no legal provisions regarding conflicts of interest, remuneration or price of advice given are in place<sup>23</sup> and is not specific to automated advice but, generally, to financial advice. However, these risks may be made worse when consumers are offered advice through automated tools, given that they are unable to ask clarifying questions so as to better understand the conditions under which the advice is provided.

### R4: Consumers have limited and/or unclear information about the extent to which the tool produces recommendations tailored to them

60. When using some automated tools, consumers may perceive the final output as an advice, when, in fact, the output is not tailored to their specific situation and/or needs<sup>24</sup>. For example, the output provided may be restricted to informing consumers of the general characteristics of a product or a set of products. This may be the case for the output of some comparison websites or online calculators, depending on the precise characteristics of the tool.<sup>25</sup>

<sup>23</sup> For example, in the securities sector, MiFID sets out a number of relevant provisions including in relation to the management of conflicts of interest and the disclosure of information to clients that must be fair, clear and not misleading. Also under MiFID, inducements are not permitted if they would result in any bias in the advice given (under MiFID II which will enter into application in January 2017, inducements are explicitly banned for the provision of independent investment advice).

<sup>24</sup> It should be noted that, in the securities sector, the definition of advice is discussed in CESR’s Question & Answers on Understanding the definition of advice under MiFID (CESR/10-293), which identifies the importance of presentation in determining whether investment advice is being given. This paper sets out five ‘tests’ to determine whether investment advice is being provided and states, inter alia, that: “it is important to take account of whether it would be reasonable to think that a personal recommendation is being made in determining whether investment advice is being given. So, if a recommendation is put forward in such a way as a reasonable observer would view it as being based on a consideration of a client’s circumstances or presented as suitable then - subject to the other four tests being met – this will amount to investment advice.” (p.4): [http://www.esma.europa.eu/system/files/10\\_293.pdf](http://www.esma.europa.eu/system/files/10_293.pdf).

<sup>25</sup> An example taken from the CESR’s Question & Answers on Understanding the definition of advice under MiFID (CESR/10-293) is: “price comparison websites commonly collect information from clients and about their circumstances and allow them to filter the information that they view as a result, without necessarily giving investment advice. The website may enable a client to enter information to generate a list of investment products for which they are eligible, or

61. The perception of having received advice can, for example, arise if consumers enter some personal information or are required to answer a number of questions, which would increase their expectation of the final output, even where the output does not fall within an existing legal definition of 'advice'. In such a case, the consumer may expect a sophisticated output, but may instead receive a non-specific output that they still perceive as advice.<sup>26</sup> This may result in the consumer making decisions that are not suitable for them. As one example, if the final output of an automated tool is a calculation or a comparison of purchase prices, presented without taking into account the personal situation of the consumer, the consumer may be led to purchase the cheapest product, without taking into account any other relevant product features that could impact whether the product is suitable (for example, whether the product has a fixed term).

62. This is especially relevant where:

- no legal definition of advice exists. In such cases, no legal consequence of defining a service as 'advice' would arise for the financial institution providing the service;
- no sectoral legislation is in place that requires the financial institutions providing advice to assess the knowledge and experience of the client;<sup>27</sup> and/or
- advice is given about structured or complex products that are more difficult for consumers to understand, e.g. unit-linked insurance products, or loans combined with savings.

#### R5: Consumers do not understand who is providing advice because of the fragmented nature of the advice process

63. Increasing automation of different parts of the advice process allows increased opportunity for those separate parts of the process to be performed by different automated tools. For example, one tool might be used to collect information from consumers, and another tool might be used to propose recommendations based on the data collected. If different financial institutions perform different parts of this process it may not be easy for the consumer to

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that meet criteria they have chosen, without providing a recommendation. In such cases, the ability of the client to make their own choices about the features they are looking for, and the absence of apparent judgement about which features or products they should choose, would make it unlikely that the service offered would be viewed as investment advice".

<sup>26</sup> It is possible for a consumer, having used an automated tool, to receive an output together with a disclaimer stating that the output is not advice. In the securities sector, regardless of whether a disclaimer is provided, the output will be considered as investment advice under the MiFID definition if the output meets the five 'tests' set out in CESR's Question & Answers on Understanding the definition of advice under MiFID (CESR/10-293).

<sup>27</sup> In the securities sector, all investment firms providing investment advice are required by MiFID to (i) obtain the necessary information regarding the client's or potential client's knowledge and experience in the investment field relevant to the specific type of product or service, his financial situation and his investment objectives so as to enable the firm to recommend to the client or potential client the investment services and financial instruments that are suitable for him; and (ii) provide clients and potential clients with information that is fair, clear and not misleading. This would apply equally whether advice is provided by a person or via an automated tool.

understand which entity is providing the advice. Unclear allocation of responsibility could make it harder for consumers to direct queries or complaints to the appropriate entity, which might result in delays or difficulties in resolving issues, including redress (where relevant).

64.If there is an issue with the automated tool that provides the advice, it may also be difficult for the consumer to assess who is liable, depending on the nature of the issue (e.g. tool malfunction; non-agreement with the advice given; unsuitability of the advice given, etc.), on the existence and clear disclosure of liability agreements between financial institutions and their providers, and also on the actual responsibility of the entity that the consumer seeks for compensation from (e.g. financial institution, IT provider).

65.This risk could also be exacerbated if the advice is provided via automated tools across different jurisdictions (e.g. where the consumer may be less familiar with the relevant redress mechanism).

**R6: Consumers are unaware that the personal data they input in the tool is used in ways they did not envisage when they provided it**

66.When using an automated tool, consumers input personal data. It may not always be clear if and how that data is going to be used by the financial institution offering the tool for other purposes, such as consumer profiling or selling the data to third parties. This may happen even if consumers consent to the use of data, because the online environment may encourage consumers to quickly ‘accept’ terms and conditions, without fully understanding the implications of having done so.

67.This risk, while not being specific to automation in financial advice, may be more likely to occur when automated tools are used, because providing data online may increase the lack of clarity regarding the potential use of such data and, thus, increase the possibility for personal data to be used in ways not initially envisaged by consumers. Automated tools could also increase the possibility for so called ‘social engineering’ to occur because as consumers become increasingly accustomed to providing personal information online, this increases the potential that they could fall for phishing and other scams designed to trick consumers into revealing personal financial information, over email or via websites.

### **Risks related to flaws in the functioning of the tool**

**R7: Consumers make unsuitable decisions because of limitations or assumptions within the tool**

68.Some automated tools that provide advice may rely on certain mathematical or market assumptions (e.g. interest rate will always be low) that do not vary with the consumer’s specific needs. The output of the tool can also be limited. For example, automated financial advice tools may be designed to fit a customer into a range of pre-determined options. The consumer may not be aware of, or understand the impact of, these types of limitations or assumptions that factor in the tool’s decision-making process.

69. If the tool is limited to certain assumptions or pre-determined categories, the advice provided by the tool may not be completely adequate to the consumer's personal situation. In such cases, consumers may not be aware that the final output of the tool may not correctly reflect their needs, even if they have inputted the correct data.

#### R8: Consumers make unsuitable decisions because there are errors in the tool

70. An algorithm or decision tree logic can vary in its level of complexity. Particularly in the case of complex algorithms or decision trees, there is a risk that an error or inadequacy could occur during the development stage. This could result in unsuitable advice for consumers which would likely result in redress claims by consumers who have suffered detriment. Given the wide reach of automated advice tools it may be more likely that any error will affect a large number of consumers at the same time, thus giving rise to a high number of complaints.

71. An error/inadequacy of the automated tool could be more likely to arise if tools are developed without the input of people who are appropriately qualified and have sufficient understanding of the implications of the financial advice that the automated tools produce as their output. For example, if tools are developed by technology or programming specialists without the involvement of financial advisers.

#### R9: Consumers suffer detriment because the automated financial advice tool they use is hacked and the underlying algorithm is manipulated

72. Automated financial advice tools rely on algorithms in the absence of human intervention. As with many technologies, automated financial advice tools may be vulnerable to hacking or manipulation of the underlying algorithm, influencing the advice provided.

73. If advice is provided based on a flawed logic, it may be unsuitable for consumers. Because of the lack of human judgement involved in automated advice processes, and given that control functions (such as Risk and Compliance) might not be used to interrogating advice algorithms, it may take longer for financial institutions to identify instances where cyber threats have occurred.

#### R10: Consumers make unsuitable decisions because the tool facilitates them to move too quickly through the process

74. Consumers may feel that automated advice tools are self-explanatory and, thus, easy to use quickly. Accordingly, they may rush into inputting data in the tool and answering prompted questions and move quickly through the process of obtaining advice and making decisions about their finances. This may result in consumers feeling they are ready to make a decision without due consideration of all risks involved.

#### R11: Consumers lack motivation to act on advice given by automated tools where such tools do not facilitate an end-to-end process

75. If a tool does not offer the possibility to act upon the advice received, facilitating an end-to-end process (i.e. providing advice and enabling that advice to be acted upon), consumers may lack motivation to act on the advice given by the tool, thus diminishing its effectiveness.
76. This risk can be considered to be made worse by automation because consumers do not have the benefit of human interaction to help them follow up on the advice received by finding appropriate products/services.

### Risks related to a widespread use of automated financial advice tools

**R12: Consumers lose out as a result of automated advice tools being based on similar algorithms, resulting in many consumers taking the same actions in relation to the same types of products/services**

77. If automated tools become widespread and the logic of such automated advice is based on similar (or the same) underlying technology, there may be a “herding risk” that a significant volume of consumers end up transacting in the same way in relation to the same financial products/services. This procyclicality could lead to an increased volatility in the market which could result in consumers losing money if this “herding” effect has a systemic impact which was not taken into account at the time the advice was provided. This may result in consumer detriment, e.g. in the event of a market “shock” event.

**R13: Consumers may no longer be given the opportunity to access any human financial advice**

78. Should the use of automated advice tools become widespread for any particular category of financial products, consumers may face a reduced supply of human advice due to the reduced demand for it. This potential risk may be particularly relevant for consumers that do not have ready access to automated tools (e.g. because they do not know or are not comfortable using them, or because they do not own or have access to a device with internet access), and/or for consumers that simply prefer to receive human advice before purchasing financial products or services.

#### Questions:

14. Do you agree with the description of the potential risks identified? If not, explain why.
15. Do you consider there to be any risks missing? If so, please explain.
16. Do you see any differences in the potential risks arising for consumers in each of the banking, insurance and securities sectors?
17. Have you observed any of these risks causing detriment to consumers? If so, in what way?

## Risks to financial institutions

### Risks related to the functioning of the tool

#### R14: Financial institutions may be exposed to litigation and subsequent reputational risk due to faulty automation

79.If there are errors in the design of automated advice tools used by financial institutions, the output of the tools will also be flawed and this may generate unsuitable advice. This would likely result in an obligation to provide redress for consumers who have suffered detriment. Given the wide reach of automated advice tools it may be more likely that any error will affect a large number of consumers at the same time, thus giving rise to a high number of complaints.

80.This risk may be more likely to occur if internal control functions (e.g. Compliance, Internal Audit) are not used to reviewing the algorithms developed against the output of automated tools. This risk may also be exacerbated if financial institutions are not able to create and maintain a storage capacity and audit trail that is sufficient to demonstrate that, when the advice was given, it was suitable for the client, taking into account, at the moment when the advice was given the profile filled by the clients, the situation of the market, and the range of products available.

81.Also, if a financial institution provides an automated advice tool that is somehow flawed (e.g. as a result of error, fraud or cyber threats), then the financial institution may suffer a reputational risk that may even spread to other services offered to consumers and result in reduced market confidence.

#### R15: If providers of automated advice tools also offer consumers the possibility to engage with a human advisor as an alternative means to obtain advice, consumers may overuse that alternative means so as to supplement the automated advice on the product/service

82.There may be cases where automated advice is offered, but still financial institutions offer alternative means of obtaining advice, e.g. over the phone, with a human advisor, to aid and/or supplement the process. When this is the case, financial institutions may find that consumers tend to use the alternative means of obtaining advice as the principal means, disregarding the role that the automated tool should play in the process of obtaining advice.

### Risks related to liability allocation

#### R16: Legal disputes may arise due to unclear allocation of liability

83.As a result of increasing disintermediation in financial services, which is facilitated by the use of technology, it may be more likely that different financial institutions can be responsible for different parts of the service offered to consumers online. For example, tool that offers automated advice to the financial institution's clients may be provided by a financial technology firm ('FinTech'), who is responsible for its correct functioning, but may not be the

same institution that the consumer interacts with. This increases the complexity of the business operations of financial services firms, and may create new or increased operational risks, that financial institutions are not used to managing.

84. Where there are no specific legal agreements between the different actors to stipulate liability on an ongoing basis, and if there are not appropriate controls in place over any outsourcing arrangements, it may happen that financial institutions inappropriately delegate their regulatory and contractual responsibilities to the end provider.
85. Furthermore, if the allocation of liability among all parties involved is unclear, either between the parties, or to the clients, legal disputes may arise between financial institutions and their clients, or between financial institutions and outsource providers.

**Questions:**

- 18.** Do you agree with the description of the potential risks identified? If not, explain why.
- 19.** Do you consider there to be any risks missing? If so, please explain.
- 20.** Do you see any differences in the potential risks arising for financial institutions in each of the banking, insurance and securities sectors?
- 21.** Have you observed any of these risks causing detriment to financial institutions? If so, in what way?

## Possible evolution of the market

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86. The ESAs observe that the offering and usage of automated financial advice tools in EU Member States appears to be currently limited to particular jurisdictions, although precise statistical data is not available. Although some countries have more experience in automated financial advice tools than others, and various independent research (as mentioned earlier in this Discussion Paper) indicates an increase in the market automated financial advice is likely, it is difficult to predict how the market for automation in financial advice will evolve.

87. Based on the observations in this Discussion Paper and, for example, the recent growth seen in the US in the market for automated advice, the ESAs expect that automation in financial advice will continue to grow in the near future, including a proliferation of more sophisticated tools and an increasing integration of different data sources<sup>28</sup>.

88. As the level of digitalisation in financial services increases more generally, it may be likely that automated tools that provide advice will also gain importance in number and in quality. However, their use may not be equally widespread in all European markets. The following factors may have an impact on the current and future proliferation of automated advice tools:

### Demand factors

- In some markets and jurisdictions, consumers are historically less comfortable using technical innovations and automated procedures to manage their finances, still preferring to engage with a human advisor. In such markets, sales processes are less likely to be fully automatic. This is also the case in markets that are characterised by more conservative products, which do not require such a high level of advice for consumers (e.g. common credit and deposits accounts, when compared to portfolio of complex investment products).
- The extent to which an online culture exists within the various Member States could give an indication of the potential consumer interest in the availability of online tools that provide financial advice. This might vary considerably between Member States. A national market with a high level of online usage (whether via mobile phones or desktop devices<sup>29</sup>) might give one indication that its population

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<sup>28</sup> See “Advice goes virtual: How new digital investment services are changing the wealth management landscape”, a report by EY, 2015, [http://www.ey.com/Publication/vwLUAssets/Advice\\_goes\\_virtual\\_in\\_asset\\_management/\\$FILE/ey-digital-investment-services.pdf](http://www.ey.com/Publication/vwLUAssets/Advice_goes_virtual_in_asset_management/$FILE/ey-digital-investment-services.pdf).

See also “Robo-Advisors 2.0 - How Automated Investing is infiltrating the Wealth Management Industry, MyPrivateBanking, 2015, [http://www.myprivatebanking.com/UserFiles/file/Extract%20-%20MyPrivateBanking%20Research%20Report%20-%20Robo-Advisors%202.0\(1\).pdf](http://www.myprivatebanking.com/UserFiles/file/Extract%20-%20MyPrivateBanking%20Research%20Report%20-%20Robo-Advisors%202.0(1).pdf).

<sup>29</sup> See statistics on the proportion of EU people who used the internet for web banking in 2014, at [http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Proportion\\_of\\_people\\_who\\_used\\_the\\_internet\\_for\\_web\\_banking\\_professional\\_purposes\\_and\\_selling\\_online\\_EU-28\\_2014\\_\(%25\)\\_BYIE15.png](http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Proportion_of_people_who_used_the_internet_for_web_banking_professional_purposes_and_selling_online_EU-28_2014_(%25)_BYIE15.png). More generally, see statistical data on several different aspects of

would be more likely to purchase or seek financial products or services online compared to those markets that do not have a high online usage pattern. Markets with high online usage will have greater awareness of and exposure to automated financial services through online advertising, social media forums etc.

#### Supply factors

- In some jurisdictions there is a general move towards paper-less transactions and records, reducing costs for firms and providing a more convenient option for consumers for storing and easily retrieving/referring back to important financial documents/information. This preference might encourage consumers to opt for the online method of conducting their financial affairs.
- Some Member States are seeing the emergence of new models that provide investment advice online, but they have yet to take off in a significant way. However, there remains intense interest in developing automated advice business models from industry. Firms may be proceeding with caution due to concerns about future liability and perceptions of regulatory risk.

#### Other factors

- The business models adopted by financial institutions are evolving. Many financial institutions are expanding their offering to provide automated tools to support face-to-face investment advice, or to provide automated online advice with the possibility of interaction with staff. Also, specialist FinTechs have developed automated advice tools to either (i) enter into the market to provide financial advice for the first time; or (ii) sell to incumbent financial institutions to use their technology solutions.<sup>30</sup>
- Legislation about the conclusion of contracts may be seen as a barrier for the development of automated financial advice tools. If such legislation states that all contracts for supplying financial services and financial auxiliary services shall be made in writing, human intervention may be necessary in order to conclude a contract for financial services and financial auxiliary services. Even where legislation provides for the possibility for contracts to be concluded through the

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the information society in the European Union (EU), focusing on the availability of information communication technologies and their use by individuals and within households, at

<file:///P:/EBA/Innovation%20in%20general/Information%20society%20statistics%20-%20households%20and%20individuals%20-%20Statistics%20Explained.html>.

<sup>30</sup> According to Accenture's report "The Future of Fintech and Banking: Digitally disrupted or reimaged?" which is based on CB Insights data, the global FinTech investment jumped 201% between 2013 and 2014, breaking the \$12BN mark across more than 730 deals. The US makes up the lion's share, but Europe has experienced the highest level of growth, with an increase of 215% (year-on-year), at [https://www.accenture.com/t20150707T195228\\_w/\\_pl-en/acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Dualpub\\_11/Accenture-Future-Fintech-Banking.pdf](https://www.accenture.com/t20150707T195228_w/_pl-en/acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Dualpub_11/Accenture-Future-Fintech-Banking.pdf).

use of an advanced electronic signature, this need may lead to the avoidance of automated advice if consumers are not aware of how to use this technology or firms do not make such technology readily available.<sup>31</sup>

89. The evolution of the use of automated financial advice tools may also not be spread equally across the securities, banking and insurance sectors:

- In the securities sector, it could be argued that providing investment advice for consumers with lower sums of money or assets is becoming less profitable for financial institutions. Automated tools may provide an opportunity to offer advice to this gap in the market. The securities sector in particular shows more signs of increased automation throughout different parts of the advice process, e.g. to collect information from consumers, to provide recommendations on transactions in financial instruments, and to execute orders.
- In the other two sectors, however, automation in financial advice does not seem to be widespread yet, although some level of automation that may support the advice process is evidenced through the use of comparison websites and calculators that aid the decision-making process. The increasing use of internet banking and mobile banking could be a trigger in the development of automation in financial advice in the banking sector, with smartphone applications serving as automated tools in the future, for instance<sup>32</sup>.
- Automation in the insurance sector is becoming more prevalent, particularly in the non-life sector. Insurance provider and intermediary sites offer the facility for consumers to seek a quote and purchase insurance online. These sites request information from the consumer for the purposes of calculating a quote and should the consumer wish to continue he/she must provide further more detailed information, usually in a questionnaire format. At this point, the site will offer either one product or a range of products that suit the consumer's needs. The consumer can then select the product he/she wishes to purchase and complete the process online.

90. The ESAs have also taken note of the potential for increasing fragmentation of the distribution chain if automated tools are provided by different specialist firms performing different elements of the process. In this fragmented financial services landscape, the distribution chain may split up in order to allow the consumer to choose the preferred supplier for each specific financial need, advice being one of them.

<sup>31</sup> This barrier may be overcome, however, by the e-mailing of the contract or the posting of the contract to the consumer who was given advice online, in order to sign and return it to the financial service provider.

<sup>32</sup> In the banking sector, automated tools could be usefully integrated in the selling process of standardized products, such as basic account or personal loans, to reduce the overall placement cost and to offer better conditions to consumers. They are already used, for instance, in the provision of loans, where loan providers grant loans over the internet based on information provided by consumers and credit score from credit rating companies, without any personal contact with consumers.

91. On the other hand, consumer awareness of automated financial advice tools seems to be low and financial literacy of consumers has been shown to be limited.<sup>33</sup> Many consumers may prefer to deal with natural persons in order to obtain advice.<sup>34</sup> Automated financial advice tools are generally aimed at internet-minded consumers and at consumers who already have an expertise in the financial sector of the product in question. Nevertheless, automated tools might still be used by consumers to seek information on a given market, even if the final decision is made through a human advisor.

92. Consumer awareness about data protection issues has been rising as technology is increasingly used by financial institutions and personal data is collected using these tools. If financial institutions foster automated procedures for providing advice there could be asymmetric developments of such automated tools while consumers are becoming more cautious about data collection and protection issues.

**Questions:**

**22.** Would you agree with the assessment of the potential evolution of automated advice? Please provide your reasoning.

**23.** How do you think that the market for automation in financial advice will evolve in the near future in the banking, insurance and investment sectors? Please also provide details of any relevant data or information to support your views, where available.

**Additional comments:**

**24.** Are there any other comments you would like to convey on the topic of automation in financial advice?

<sup>33</sup> See Atkinson, A. and F. Messy (2012), "Measuring Financial Literacy: Results of the OECD / International Network on Financial Education (INFE) Pilot Study", OECD Working Papers on Finance, Insurance and Private Pensions, No. 15, OECD Publishing, at <http://dx.doi.org/10.1787/5k9cfs90fr4-en>.

Another report "Consumer Decision-Making in Retail Investment Services: A Behavioral Economics Perspective", 2010, has shown that 'nearly 80% of investments are made in a face-to-face setting, usually with an employee of the investment provider or a professional advisor. 58% of investors say their final choice of product was influenced by an advisor, while the advisor initiated the purchase on a quarter of occasions'. See at [http://ec.europa.eu/consumers/archive/strategy/docs/final\\_report\\_en.pdf](http://ec.europa.eu/consumers/archive/strategy/docs/final_report_en.pdf).

Also, a study published by the IFEP, a French institute for public financial education, in partnership with the French AMF, and conducted by the Crédoc (Research Centre on Living Conditions), focused on financial literacy in the French population and found that French citizens struggle to understand certain basic financial concepts, with 80% of the French respondents admitting to being a bit lost when it comes to financial investments. See [http://www.credoc.fr/pdf/Sou/La\\_culture\\_financiere\\_des\\_Francais\\_2011.pdf](http://www.credoc.fr/pdf/Sou/La_culture_financiere_des_Francais_2011.pdf).

<sup>34</sup> According to a survey conducted by PriceWaterhouseCoopers on the Italian market "Robo Advisor vs Human Advisor", 96% of the human advisors interviewed think that less than 10% of their customers use robo-advisory platforms to get personal recommendations and that automated tools can gain only a tiny market share. See <http://www.pwc.com/it/it/industries/asset-management/assets/docs/robo-advisory.pdf>.

## Overview of questions

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1. Do you agree with the assessment of the characteristics of automated financial advice tools presented in this Discussion Paper? If not, please explain why.
2. Are there any other relevant characteristics of automated financial advice tools?
3. Are you aware of examples of automated financial advice tools being used in the banking, insurance, and/or securities sectors? Please provide examples, giving details of their operating process.
4. Do you offer/are you considering offering automated financial advice tools as part of your business model? If so, please briefly describe: i) what type of entity you are, e.g., long established, start-up, a product provider, an intermediary; ii) the service you provide (e.g. to what extent do you integrate human interaction in the tool you provide?); iii) the nature of your clients; iv) your business model; v) who developed the automated tool (i.e. an external company or developed internally?); and vi) the size of your activity and/or forecast activity?
5. Do you consider there are barriers preventing you from offering/developing automated financial advice tools in the banking, insurance and securities sectors? If so, which barriers?
6. Do you consider the potential benefits to consumers to be accurately described? If not, please explain why.
7. Are you aware of any additional benefits to consumers? If so, please describe them.
8. Do you see any differences in the potential benefits arising for consumers in each of the banking, insurance and securities sectors?
9. Have you observed any of these potential benefits to consumers? If so, please provide examples and describe the kind of benefit that has accrued.
10. Do you consider the potential benefits to financial institutions to be accurately described? If not, please explain why.
11. Are you aware of any additional benefits to financial institutions? If so, please describe them.
12. Do you see any differences in the potential benefits arising for financial institutions in each of the banking, insurance and securities sectors?
13. Have you observed any of these potential benefits to financial institutions? If so, please provide examples and describe the kind of benefit that has accrued.
14. Do you agree with the description of the potential risks to consumers identified? If not, explain why.
15. Do you consider there to be any risks to consumers missing? If so, please explain.
16. Do you see any differences in the potential risks arising for consumers in each of the banking, insurance and securities sectors?
17. Have you observed any of these risks causing detriment to consumers? If so, in what way?
18. Do you agree with the description of the potential risks to financial institutions identified? If not, explain why.
19. Do you consider there to be any risks to financial institutions missing? If so, please explain.
20. Do you see any differences in the potential risks arising for financial institutions in each of the banking, insurance and securities sectors?
21. Have you observed any of these risks causing detriment to financial institutions? If so, in what way?

- 22.** Would you agree with the assessment of the potential evolution of automated advice?  
Please provide your reasoning.
- 23.** How do you think that the market for automation in financial advice will evolve in the near future in the banking, insurance and investment sectors? Please also provide details of any relevant data or information to support your views, where available.
- 24.** Are there any other comments you would like to convey on the topic of automation in financial advice?